

Title (en)  
THERMAL RADIATION DETECTOR

Publication  
**EP 0272731 A3 19900704 (EN)**

Application  
**EP 87202378 A 19871201**

Priority  
GB 8629109 A 19861205

Abstract (en)  
[origin: EP0272731A2] A thermal radiation detector suitable for detecting radiation in a given wavelength range, for example 5 to 15 micrometres, includes a detecting element (10), such as a pyroelectric element, and a structure coupled to the element for improving performance by optimising the absorption characteristic of the detector over a wide wavelength range. The structure comprises two dielectric layers (12 and 18) preceding the detecting element with optical thicknesses substantially one quarter of a selected wavelength in the wavelength range and an intermediate resistive layer (17) for absorbing incident radiation in the wavelength range. A reflective layer (15) is preferably disposed between the element and the adjacent dielectric layer. The dielectric layers may both comprise ZnS or Ge. One layer may comprise a portion of a flexible film used to support the detector.

IPC 1-7  
**G01J 5/08**; **G01J 5/34**

IPC 8 full level  
**G01J 1/02** (2006.01); **G01J 1/04** (2006.01); **G01J 5/08** (2006.01); **G01J 5/34** (2006.01)

CPC (source: EP US)  
**G01J 5/02** (2013.01 - EP US); **G01J 5/04** (2013.01 - EP US); **G01J 5/046** (2013.01 - EP US); **G01J 5/08** (2013.01 - EP);  
**G01J 5/0801** (2022.01 - US); **G01J 5/0802** (2022.01 - EP US); **G01J 5/0853** (2013.01 - EP US); **G01J 5/34** (2013.01 - US);  
**G01J 5/0025** (2013.01 - EP US); **G01J 5/34** (2013.01 - EP)

Citation (search report)  
• [AD] GB 2173038 A 19861001 - PHILIPS ELECTRONIC ASSOCIATED  
• [A] FR 1374475 A 19641009 - CSF  
• [A] FR 2451575 A1 19801010 - KUREHA CHEMICAL IND CO LTD [JP]  
• [A] US 4152597 A 19790501 - SHER ARDEN [US]  
• [A] GB 2100058 A 19821215 - PHILIPS ELECTRONIC ASSOCIATED  
• [A] PATENT ABSTRACTS OF JAPAN vol. 9, no. 90 (P-350)(1813) 19 April 1985, & JP-A-59 218925 (MATSUSHITA DENKI SANGYO K.K.) 10 December 1984,

Cited by  
EP0354369A3; US5021663A; EP0417845A1

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